SEQUENCE LISTING

<110> THE UNIVERSITY OF MEDICINE AND DENTISTRY

<120> COLD-SHOCK REGULATORY ELEMENTS, CONSTRUCTS THEREOF, AND METHODS OF USE

<130> 913.6600PCT

<140> PCT/US99/19030
<141> 1999-08-20

<160> 71

<170> PatentIn Ver. 2.0

<210> 1
<211> 14
<212> RNA
<213> E. coli

<400> 1
acuuugugau ucau   14

<210> 2
<211> 14
<212> RNA
<213> E. coli

<400> 2
augacuggua ucgu   14

<210> 3
<211> 14
<212> RNA
<213> E. coli

<400> 3
augacugguu ucgu   14

<210> 4
<211> 14
<212> RNA
<213> E. coli

<400> 4
augacugguu uagu   14

<210> 5
<211> 14
<212> RNA
<213> E. coli

<400> 5
augaguuaug uaga   14

<210> 6
<211> 14

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<212> RNA
<213> E. coli

<400> 6
auggcgaaaa gaau                                                    14

<210> 7
<211> 47
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: mRNA construct

<220>
<223> n = g, c, u or a

<220>
<223> This sequence may encompass a construct wherein
      the "n" region may be 0-30.

<400> 7
augnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnaugacug guaucgu               47

<210> 8
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: DNA which
      encodes for the mRNA construct

<220>
<223> n = g, c, t, or a

<220>
<223> This sequence may encompass a construct wherein
      the "n" region may be 0-30.

<400> 8
atgnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnatgactg gtatcgt               47

<210> 9
<211> 15
<212> DNA
<213> E. coli

<220>
<221> MOD_RES
<220> (5)
<223> a substituted by t

<220>
<221> MOD_RES
<220> (6)
<223> t substituted by c
```

```
<220>
<221> MOD_RES
<220> (9)
<223> a substituted by g

<400> 9
aattnntana ggtaa                                                    15

<210> 10
<211> 15
<212> DNA
<213> E. coli

<400> 10
acggttctag acgta                                                   15

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 11
cggcattaag taagcagttg                                              20

<210> 12
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 12
ctggatcctt taatggtctg tacgtcaaac cgt                               33

<210> 13
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 13
cggaattcag cctgtaatct ct                                           22

<210> 14
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 14
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ctgtcgactt acttacggcg ttgc   24

<210> 15
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 15
gacaggatta aaaatcgag   19

<210> 16
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 16
aaccgttgat gtgca   15

<210> 17
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 17
ccttgctagc cgattaatca taaatatg   28

<210> 18
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18
ccggatccag gttgaaccat ttt   23

<210> 19
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19
actacacttt gatgtgcatt agc   23

<210> 20

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<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 20
caacgataag ctttaatggt ctgt                                    24

<210> 21
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 21
taaaggctct tgaagggact t                                       21

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 22
cggcgatata atgtgcacta cgaggg                                  26

<210> 23
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 23
tacctttaag gcgtgcttta cagatt                                  26

<210> 24
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 24
gcacatcaaa gtgtagtaag gcaa                                    24

<210> 25
<211> 21
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Primer

<400> 25
taaagcttat cgttgatacc c   21

<210> 26
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 26
tcaagagcct ttaacgcttc aaaa   24

<210> 27
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 27
gcacattata tcgccgaaag gc   22

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 28
aaagcacgcc ttaaaggtaa tacact   26

<210> 29
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
      Oligonucleotide #8509

<400> 29
ctagccgaaa ggcacaaatt aagagggtat taataatgaa agggggaatt cca   53

<210> 30
<211> 53
<212> DNA
<213> Artificial Sequence

<220>

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<223> Description of Artificial Sequence:
      Oligonucleotide #8510

<400> 30
agcttggaat tccccctttc attattaata ccctcttaat ttgtgccttt cgg        53

<210> 31
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 31
ccggatccag ctttaatata gct                                         23

<210> 32
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 32
ccggatccag atttgacatt ctaca                                       25

<210> 33
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 33
ccggatccag gttaaaccat ttt                                         23

<210> 34
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 34
ccggatccag acctttatca gcgtt                                       25

<210> 35
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
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<400> 35
gaaaggctca agttacttca tgtagaatg   29

<210> 36
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 36
cattctacat gaagtaactt gagcctttc   29

<210> 37
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 37
aattaatcac aaagtggg   18

<210> 38
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 38
aattcccact ttgtgatt   18

<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 39
aattatgaat cacaaagtgg g   21

<210> 40
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

```
<400> 40
aattcccact ttgtgattca t                                        21


<210> 41
<211> 48
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 41
ctagcccttc ttaataatga aaggggaat tatgaatcac aaagtggg             48


<210> 42
<211> 48
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 42
aattcccact ttgtgattca taattccccc tttcattatt aataaggg           48


<210> 43
<211> 33
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 43
ctagcccttc ttaataatga atcacaaagt ggg                           33


<210> 44
<211> 33
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 44
aattcccact ttgtgattca ttattaataa ggg                           33


<210> 45
<211> 33
<212> DNA
<213> Artificial Sequence


<220>
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<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 45
ctagagggta ttaataatga atcacaaagt ggg   33

<210> 46
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: annealed
      oligonucleotide

<400> 46
aattcccact ttgtgattca ttattaatac cct   33

<210> 47
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 47
cgccagggtt ttcccagtca cgac   24

<210> 48
<211> 13
<212> RNA
<213> E. coli

<400> 48
gccgaaaggc aca   13

<210> 49
<211> 13
<212> RNA
<213> E. coli

<400> 49
gccgaaaggc uca   13

<210> 50
<211> 13
<212> RNA
<213> E. coli

<400> 50
gccgaaaggc cca   13

<210> 51
<211> 47
<212> RNA
<213> E. coli

<400> 51
uugacaucca cggaaguuuu cagagaugag aaugugccuu cgggaac   47

<210> 52
<211> 40
<212> RNA
<213> E. coli

<400> 52
gccgaaaggc acacuuaauu auuaaaggua auacacuaug   40

<210> 53
<211> 32
<212> RNA
<213> E. coli

<400> 53
gccgaaaggc ucaaguuaag gaauguagaa ug   32

<210> 54
<211> 34
<212> RNA
<213> E. coli

<400> 54
gccgaaaggc ccaaaaugaa ggaaguaaaa uaug   34

<210> 55
<211> 162
<212> RNA
<213> E. coli

<400> 55
acgguuugac guacagacca uuaaagcagu guaguaaggc aagucccuuc aagaguuauc 60
guugauaccc cucguagugc acauuccuuu aacgcuucaa aaucuguaaa gcacgccaua 120
ucgccgaaag gcacacuuaa uuauuaaagg uaauacacua ug   162

<210> 56
<211> 136
<212> RNA
<213> E. coli

<400> 56
aaguguagua aggcaagucc cuucaagagu uaucguugau accccucgua gugcacauuc 60
cuuuaacgcu ucaaaaucug uaaagcacgc cauaucgccg aaaggcacac uuaauuauua 120
aagguaauac acuaug   136

<210> 57
<211> 134
<212> RNA
<213> E. coli

<400> 57
acgguuugac guacagacca uuaaagcuua ucguugauac cccucguagu gcacauuccu 60
uuaacgcuuc aaaaucugua aagcacgcca uaucgccgaa aggcacacuu aauuauuaaa 120
gguaauacac uaug   134

<210> 58

<211> 131
<212> RNA
<213> E. coli

<400> 58
acgguuugac guacagacca uuaaagcagu guaguaaggc aagucccuuc aagagcuuua 60
acgcuucaaa aucuguaaag cacgccauau cgccgaaagg cacacuuaau uauuaaaggu 120
aauacacuau g 131

<210> 59
<211> 130
<212> RNA
<213> E. coli

<400> 59
acgguuugac guacagacca uuaaagcagu guaguaaggc aagucccuuc aagaguuauc 60
guugauaccc cucguagugc acauuauauc gccgaaaggc acacuuaauu auuaaaggua 120
auacacuaug 130

<210> 60
<211> 136
<212> RNA
<213> E. coli

<400> 60
acgguuugac guacagacca uuaaagcagu guaguaaggc aagucccuuc aagaguuauc 60
guugauaccc cucguagugc acauuccuuu aacgcuucaa aaucuguaaa gcacgccuua 120
aagguaauac acuaug 136

<210> 61
<211> 65
<212> RNA
<213> E. coli

<400> 61
uuaaggaaug uagaauguca aauaaaauga cugguuuagu aaaaugguuu aacgcugaua 60
aaggu 65

<210> 62
<211> 39
<212> RNA
<213> E. coli

<400> 62
cuuaaccuuc gggagggcgc uuaccacuuu gugauucau 39

<210> 63
<211> 15
<212> RNA
<213> E. coli

<400> 63
uacuuagugu uucac 15

<210> 64
<211> 12
<212> RNA
<213> E. coli

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<400> 64
aaucacaaag ug                                                        12

<210> 65
<211> 15
<212> RNA
<213> E. coli

<400> 65
augaaucaca aagug                                                     15

<210> 66
<211> 47
<212> RNA
<213> E. coli

<400> 66
ucuagagggu auuaauaaug aaagggggaa uuccaagcuu ggauccg                  47

<210> 67
<211> 15
<212> RNA
<213> E. coli

<400> 67
cacuuuguga uucau                                                     15

<210> 68
<211> 48
<212> RNA
<213> E. coli

<400> 68
ucuagagggu auuaauaaug aaagggggaa uuaugaauca caaagugg                 48

<210> 69
<211> 48
<212> RNA
<213> E. coli

<400> 69
ucuagcccuu auuaauaaug aaagggggaa uuaugaauca caaagugg                 48

<210> 70
<211> 33
<212> RNA
<213> E. coli

<400> 70
ucuagcccuu auuaauaaug aaucacaaag ugg                                 33

<210> 71
<211> 33
<212> RNA
<213> E. coli
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<400> 71
ucuagagggu auuaauaaug aaucacaaag ugg   33